

CLAIMS

We claim:

1. In a mobile phone network that comprises a mobile phone carrier providing mobile phone service to a plurality of mobile phone users and a data service provider providing data services to the plurality of mobile phone users through the mobile phone carrier, a method of maintaining current contact and metadata information for initiating multiple forms of mobile phone communication with a contact, the method comprising acts of:

creating a contact list that stores contact information for multiple forms of communication with one or more contacts in the mobile phone;

designating at least one contact as an automatic live contact to be updated as new information becomes available, with any remaining contacts being designated as other contacts that will not be updated as new information becomes available in order to control airtime, bandwidth, or processing requirements at the mobile phone;

sending the contact list to the data service provider for backup storage and update processing so that as new information becomes available for the at least one automatic live contact, the data service provider can send the new information to the mobile phone;

periodically receiving through the mobile phone carrier automatic contact and metadata information updates initiated by the data service provider for the at least one automatic live contact; and

updating the at least one automatic live contact with the received updates so that an appropriate form of communication may be initiated using accurate contact and metadata for the automatic live contact.

2. A method as recited in claim 1, wherein the multiple forms of communication for the at least one automatic live contact comprise two or more of voice, email, instant messaging, locate, and game communication, the method further comprising an act of locating the at least one automatic live contact.

3. A method as recited in claim 1, wherein at least one contact is designated as an other contact, the method further comprising acts of:

 sending an explicit request for a contact or metadata update to the data service provider for the at least one other contact; and

 receiving the requested contact or metadata update from the data service provider for the at least one other contact.

4. A method as recited in claim 1, further comprising acts of:

 updating contact information for a user associated with the mobile phone; and

 sending the updated contact information to the data service provider for updating one or more other mobile phones with new contact information for the user associated with the mobile phone.

5. A method as recited in claim 1, wherein a user associated with the mobile phone is also associated with a personal computer, the method further comprising an act of the data service provider sending the contact list to the personal computer.

6. A method as recited in claim 5, the personal computer stores a plurality of contacts, the method further comprising an act of the user designating which of the plurality of contacts the data service provider should synchronize with the mobile phone.

7. A method as recited in claim 1, further comprising an act of displaying at least a portion of the contact information on the mobile phone.

8. A method as recited in claim 1, further comprising an act of sending permissions information to the data service provider, the permissions information specifying who is allowed to receive either contact or metadata updates corresponding to a user of the mobile phone.

9. A method as recited in claim 8, wherein at least a portion of the contact and metadata information corresponding to the user of the mobile phone are assigned one of a plurality of permission levels, and wherein the permissions information associates a permission level with at least one or more contacts who may request contact or metadata updates corresponding to the user of the mobile phone.

10. A method as recited in claim 1, further comprising an act of automatically sending a metadata update for the mobile phone based on a change in operating mode.

11. A method as recited in claim 10, wherein the change in operating mode comprises at least one of switching the mobile phone on, switching the mobile phone off, switching the mobile phone to vibrate mode, switching the mobile phone to ring mode, taking a call, and ending a call.

12. A method as recited in claim 1, wherein the mobile phone comprises an action key, the method further comprising an act of updating the default action associated with the action key based on contact and metadata information updates received from the data service provider for the at least one automatic live contact.

13. For a mobile phone network that comprises a mobile phone carrier providing mobile phone service to a plurality of mobile phone users and a data service provider providing data services to the plurality of mobile phone users through the mobile phone carrier, a computer program product comprising one or more computer readable media carrying computer executable instructions that implement a method of maintaining current contact and metadata information for initiating multiple forms of mobile phone communication with a contact, the method comprising acts of:

creating a contact list that stores contact information for multiple forms of communication with one or more contacts in the mobile phone;

designating at least one contact as an automatic live contact to be updated as new information becomes available, with any remaining contacts being designated as other contacts that will not be updated as new information becomes available in order to control airtime, bandwidth, or processing requirements at the mobile phone;

sending the contact list to the data service provider for backup storage and update processing so that as new information becomes available for the at least one automatic live contact, the data service provider can send the new information to the mobile phone;

periodically receiving through the mobile phone carrier automatic contact and metadata information updates from the data service provider for the at least one automatic live contact; and

updating the at least one automatic live contact with the received updates so that an appropriate form of communication may be initiated using accurate contact and metadata information for the automatic live contact.

14. A computer program product as recited in claim 13, wherein the multiple forms of communication for the at least one automatic live contact comprise two or more of voice, email, instant messaging, locate, and game communication, the method further comprising an act of initiating a game with the at least one automatic live contact.

15. A computer program product as recited in claim 13, the method further comprising an act of sending an explicit request for contact information for the one or more contacts to the data service provider.

16. A computer program product as recited in claim 15, wherein the explicit request represents a request to restore the one or more contacts to the mobile phone.

17. A computer program product as recited in claim 15, wherein the explicit request represents a request to restore the one or more contacts to a second mobile phone.

18. A computer program product as recited in claim 15, further comprising acts of:

receiving a communication from a contact that is not included in the contact list;

adding the contact to the contact list; and

receiving contact and metadata information for the contact in connection with the received communication.

19. A computer program product as recited in claim 15, the method further comprising an act of displaying at least a portion of the metadata information on the mobile phone.

20. A computer program product as recited in claim 15, the method further comprising an act of registering one or more capabilities of the mobile phone with the data service provider.

21. A computer program product as recited in claim 15, the method further comprising acts of:

receiving a permission request from the data service provider to provide metadata and contact information updates for the mobile phone to another mobile phone; and

sending permissions information to the data service provider that specifies whether or not the other mobile phone is allowed to receive metadata and contact information updates for the mobile phone.

22. A computer program product as recited in claim 15, wherein a portion of the contact information for a contact is initially read-only at the mobile phone, the method further comprising acts of:

updating the read-only portion of the contact information for the contact at the mobile phone;

sending an indication to the data service provider that the contact information for the contact will be managed at the mobile phone and no further updates should be received for the read-only portion of the contact information for the contact; and

making the read-only portion of the contact information for the contact read-write.

23. A computer program product as recited in claim 15, wherein at least a portion of the contact information for a contact is read-only at the mobile phone, the method further comprising acts of:

attempting to update the read-only portion of the contact information for the contact at the mobile phone;

duplicating the read-only portion of the contact information for the contact so that the data service provider can continue to update the read-only portion; and

making the duplicated read-only portion read-write so that the duplicated portion can be updated at the mobile phone.

24. In a mobile phone network that comprises a mobile phone carrier providing mobile phone service to a plurality of mobile phone users and a data service provider providing data services to the plurality of mobile phone users through the mobile phone carrier, a method of maintaining current contact and metadata information for a contact that allows multiples forms of communication to be initiated from a mobile phone, the method comprising steps for:

storing contact information for multiple forms of communication with one or more contacts in the mobile phone;

identifying each contact as either an automatic live contact to be synchronized as new information becomes available or as an other contact that will not be synchronized as new information becomes available;

communicating the one or more contacts to the data service provider for update processing so that as new information becomes available for the at least one automatic live contact, the data service provider can synchronize the mobile phone with the new information;

periodically applying automatic contact and metadata information updates received through the mobile phone carrier from the data service provider to one or more contacts identified as automatic live contacts; and

initiating a form of communication with the one or more contacts identified as automatic live contacts based on the updated contact and metadata information for the one or more automatic live contacts.

25. A method as recited in claim 24, wherein the multiple forms of communication for the one or more contacts identified as automatic live contacts comprise two or more of voice, email, instant messaging, locate, and game communication.

26. A method as recited in claim 25, wherein the form of communication initiated with the one or more automatic live contacts comprises email.

27. A method as recited in claim 24, further comprising steps for:

changing the at least one automatic live contact to be identified as an other contact;

communicating the change to the data service provider so that as new information becomes available for the at least one automatic live contact which is now an other contact, the data service provider will no longer send the new information to the mobile phone.

28. A method as recited in claim 24, further comprising a step for explicitly requesting contact information for the one or more contacts from the data service provider.

29. A method as recited in claim 28, wherein the explicit request represents a request to restore the one or more contacts to the mobile phone.

30. A method as recited in claim 28, wherein the explicit request represents a request to restore the one or more contacts to a second mobile phone.

31. In a mobile phone network that comprises a mobile phone carrier providing mobile phone service to a plurality of mobile phone users and a data service provider providing data services to the plurality of mobile phone users through the mobile phone carrier, a computer program product comprising one or more computer readable media carrying computer executable instructions that implement a method of maintaining current contact and metadata information for a contact that allows multiples forms of communication to be initiated from a mobile phone, the method comprising steps for:

storing contact information for multiple forms of communication with one or more contacts in the mobile phone;

identifying each contact as either an automatic live contact to be synchronized as new information becomes available or as an other contact that will not be synchronized as new information becomes available;

communicating the one or more contacts to the data service provider for update processing so that as new information becomes available for the at least one automatic live contact, the data service provider can synchronize the mobile phone with the new information;

periodically applying automatic contact and metadata information updates received through the mobile phone carrier from the data service provider to one or more contacts identified as automatic live contacts; and

initiating a form of communication with the one or more contacts identified as automatic live contacts based on the synchronized contact and metadata information for the one or more automatic live contacts.

32. A computer program product as recited in claim 31, wherein the multiple forms of communication for the one or more contacts identified as automatic live contacts comprise two or more of voice, email, instant messaging, short message service, multimedia message service, locate, and game communication.

33. A computer program product as recited in claim 32, wherein the form of communication initiated with the one or more automatic live contacts comprises instant messaging.

34. A computer program product as recited in claim 31, wherein at least one of the multiple forms of communication for the one or more contacts identified as automatic live contacts comprises peer-to-peer communication between the mobile phone and at least one other mobile phone.

35. A computer program product as recited in claim 31, wherein at least one contact is designated as an other contact, the method further comprising:

a step for explicitly requesting a contact and metadata information update to the data service provider for the at least one other contact; and

an act of receiving the requested contact and metadata information update from the data service provider for the at least one other contact.

36. A computer program product as recited in claim 31, wherein at least one contact is a standard contact.

37. A computer program product as recited in claim 31, the method further comprising steps for:

changing contact information for a user associated with the mobile phone; and
communicating the changed contact information to the data service provider for updating one or more other mobile phones with new contact information for the user associated with the mobile phone.

38. A computer program product as recited in claim 31, wherein a user associated with the mobile phone is also associated with a personal computer, and wherein the automatic contact and metadata information updates are from changes the user makes to corresponding contact information for the one or more contacts that is stored at the personal computer.

39. A computer program product as recited in claim 31, wherein a portion of the contact information is read-only at the mobile phone and can only be changed through contact and metadata information updates received from the data service provider.